## REMARKS

Claims 33-42 are pending in the instant application and are all rejected.

### *Rejection under 35 U.S.C. 112*

Applicants appreciate that all of the earlier rejections under 35 U.S.C. 112, second paragraph are withdrawn.

### *Rejection under 35 U.S.C. 102*

The Examiner maintains the rejection of claims 33-42 as allegedly anticipated by Mack, U.S. Patent 7,189,507 and Gish, U.S. Publication No. 2007/0014801.

*Alleged teachings of the prior art*

Allegedly, Mack teaches methods for diagnosing *ovarian cancer* by determining the expression of a gene sequence provided in Tables 1-20, *PTK7 being one of those hundreds of gene sequences* provided in Tables 1-20. Allegedly, Gish teaches methods for diagnosing *prostate cancer* by determining the expression of a gene sequence provided in Tables 1-16, *PTK7 being one of those hundreds of gene sequences* provided in Tables 1-16.

*The legal standard*

Applicants submit that it is a fundamental principle of the patent law that in order for a reference to be prior art under 35 U.S.C. 102, the reference must enable its alleged teachings. That is, to anticipate, the prior art must be enabling – i.e., it must "enable one of ordinary skill in the art to make the invention without undue experimentation." This enablement standard is admittedly different from an applicant's 35 U.S.C. §112 enablement requirement that requires enabling both *making and using* an invention. However, the Federal Circuit appears to require prior art to enable practicing the claimed method. *See, Impax v. Aventis Pharmaceuticals* (Fed. Cir. 2008).

Whether the prior art enables its alleged teachings is a question of law, but it is based on underlying factual findings. In close cases, the important factual finding is the amount of experimentation that would have been necessary. Applying *Wands* factors, the Federal Circuit recently agreed that the prior reference was not enabling in *Impax v. Aventis Pharmaceuticals,* Case No. 07-1513 (Fed. Cir. 2008) because the prior art patent disclosed a formula encompassing hundreds or thousands of compounds for the treatment of several diseases. However, in view of the prior art disclosure, excessive experimentation would have been required to use one compound, riluzole, to treat one condition, ALS.

*Analogous case law*

A wealth of case law from the Federal Circuit supports this fundamental legal principle that in order to anticipate a claimed invention, a prior art reference must enable one of ordinary skill in the art to make the invention without undue experimentation. *Finisar Corp. v. DirecTV Group, Inc.,* 523 F.3d 1323, 1336 (Fed. Cir. 2008) (*citing In re Omeprazole Patent Litig.,* 483 F.3d 1364, 1379 (Fed. Cir. 2007)). In other words, the prior art must enable the claimed invention. *Minn. Mining & Mfg. Co. v. Chemque, Inc. (3M),* 303 F.3d 1294, 1301 (Fed. Cir. 2002). The "undue experimentation" component of that equation examines (1) the quantity of experimentation; (2) the amount of direction or guidance present; (3) the presence or absence of working examples; (4) the nature of the invention; (5) the state of the prior art; (6) the relative skill of those in the art; (7) the predictability or unpredictability of the art; and (8) the breadth of the claims. In re Wands, 858 F.2d 731, 737 (Fed. Cir. 1988).

On October 3, 2008, the Federal Circuit affirmed the district court's judgment that U.S. Patent No. 5,236,940 did not qualify as an enabling prior art reference, and thus, did not anticipate claims 1-5 of U.S. Patent No. 5,527,814, which related to the treatment of amyotrophic lateral sclerosis (ALS or Lou Gehrig's disease) with riluzole – sold by Aventis as Rilutek®. *Impax Labs., Inc. v. Aventis Pharms. Inc.,* No. 07-1530, Fed. Cir. (Oct. 3, 2008).

The Federal Circuit stated:

An issued patent enjoys a presumption of validity. Thus, a party challenging patent validity has the burden to prove its case with clear and convincing evidence. When the examiner considered the asserted prior art and basis for the validity challenge during patent prosecution, that burden becomes particularly heavy. In order to anticipate a claimed invention, a prior art reference must enable one of ordinary skill in the art to make the invention without undue experimentation. In other words, the prior art must enable the claimed invention. The "undue experimentation" component of that equation examines (1) the quantity of experimentation; (2) the amount of direction or guidance present; (3) the presence or absence of working examples; (4) the nature of the invention; (5) the state of the prior art; (6) the relative skill of those in the art; (7) the predictability or unpredictability of the art; and (8) the breadth of the claims.

The first time this case was before the district court, the trial court found that: (1) formula I encompasses a particularly large number of compounds; (2) riluzole was not meaningfully discussed in the treatment of medical conditions associated with the effects of glutamate; (3) the language of the '940 patent itself created "substantial uncertainty" regarding use of glutamate inhibiting compounds in the treatment of ALS; and (4) the language in the '940 patent discussing conditions implicating glutamate is speculative, at best. In other words, the district court found that the disclosure of the '940 patent did not put one of ordinary skill in the possession of the invention. This court remanded for a specific determination on whether the '940 patent enables a person of ordinary skill in the art to treat ALS with riluzole without regard to the efficacy of such treatment.

On remand, the district court made additional factual findings on that specific question. The district court found that excessive experimentation would have been necessary to practice the invention. Specifically the trial court opined that formula I of the alleged prior art discloses hundreds or thousands of compounds and several diseases. Moreover, nothing in the '940 patent would direct one skilled in the art to recognize that riluzole could be used to treat ALS. The trial court rejected the notion that "the mere mention of riluzole is sufficient to put one skilled in the art in the possession of the claimed invention."

The district court also did not find the dosage information in the disclosure to teach a proper treatment. Instead the trial court noted that "the dosage guidelines are broad and not specific to any of the hundreds of formula I compounds of the claimed invention or to any of the listed diseases." Moreover, the '940 patent ties the dosing information to "the compounds of the invention" and specifically excludes riluzole from the invention. Finally, the trial court also noted the absence of working examples.

> In view of these findings, the district court found that ***one of ordinary skill in the pharmaceutical arts would have needed extensive experimentation to link riluzole with the treatment of ALS***. The district court then reached the ultimate conclusion that the '940 patent does not enable claims 1-5 of the '814 patent and thus, it is not anticipatory.
>
> This court does not find error, let alone clear error, in the district court's factual findings. Weighing the Wands factors, the trial court's findings properly support its conclusion that an ordinarily skilled artisan would have needed to experiment unduly to gain possession of the invention. As shown by the trial court, the '940 patent's dosage guidelines are broad and general without sufficient direction or guidance to prescribe a treatment regimen. The alleged prior art also contains no working examples. Finally, ***nothing in the '940 patent would have led one of skill in the art to identify riluzole as a treatment for ALS. In sum, each component of the claimed invention—identifying riluzole as a treatment for ALS and devising dosage parameters—would require undue experimentation based on the teachings of the does not enable a person of ordinary skill in the art to treat ALS with riluzole, it does not anticipate claims 1-5 of the '814 patent.***
>
> As this court explained during the first appeal, when an accused infringer asserts that a prior art patent anticipates specific patent claims, the infringer enjoys a presumption that the anticipating disclosure also enables the claimed invention. However, the patentee may overcome that presumption with persuasive evidence showing that the prior art patent does not enable the claimed invention. On appeal, Impax argues that the district court's silence regarding the initial presumption of enablement to both claimed and unclaimed material is reversible legal error. . . . The district court did not need to specifically articulate its correct burden-shifting framework. In this case, as the district court found, the record shows sufficient evidence to overcome the presumption of enablement.

*Neither Mack nor Gish enable their alleged teachings*

In the present instance, ***neither Mack nor Gish teach one of ordinary skill in the art how to make the presently claimed invention, i.e. neither teach one of ordinary skill in the art how to diagnose, screen for or make a prognosis for a breast, pancreatic, lung, bladder or kidney cancer by detecting a PTK7 polypeptide comprising the amino acid sequence of SEQ ID NO:1 in tissue obtained from a subject without undue experimentation.*** Neither Mack nor Gish indicate that a PTK7 polypeptide from among their tables of hundreds of genes might be useful for such diagnosing, screening for or making a prognosis for any cancer, much less a breast, pancreatic, lung, bladder or kidney cancer.

*Neither Mack nor Gish legally anticipate the presently pending claims*

Therefore, parallel to the *Impax* decision, nothing in the Mack and Gish references would have led one of skill in the art to identify a PTK7 polypeptide as a diagnostic for the cancers listed. In sum, each component of the claimed invention—identifying PTK7 as a diagnostic for the cancers listed and devising meaningful assays would require undue experimentation based on the teachings of Mack and Gish. In short, neither Mack nor Gish enable a person of ordinary skill in the art to diagnose any cancer with with a PTK7 polypeptide without undue experimentation. As such, neither Mack nor Gish anticipate the presently pending claims.

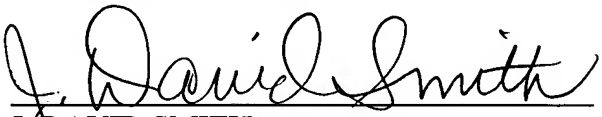
***Fees***

No fees are believed to be necessary in connection with this response. However, if this is in error, authorization is hereby given to charge Deposit Account No. 11-1153 for any underpayment, or credit any overages.

***Conclusion***

Applicant believes that the foregoing amendments to the claims place the application in condition for allowance. Withdrawal of the rejections is respectfully requested. If a discussion with the undersigned will be of assistance in resolving any remaining issues, the Examiner is invited to telephone the undersigned at (201) 487-5800, ext. 114, to effect a resolution.

Respectfully submitted,



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